

What Did the Ancient Epicureans Think Were The Upper And Lower Limits of Atomic Size?

Post by "Cassius" of September 6, 2024 at 9:21 AM

I am becoming more convinced of the importance of following Epicurus' advice to Pythocles to "most of all give yourself up to the study of the beginnings and of infinity and of the things akin to them..."

As to infinity at the larger scale, it is the boundless size of the universe (and the amount of atoms and void) that makes possible the coming together of all that we see around us to come together, and this makes it possible for us to understand the creation of our worlds without divine intervention. Epicurus was reasoning that if the universe were not infinite in size but either atoms or void were infinite, then things would be tight-packed or would never come together in the first place.

As to infinity at the smaller scale, it is the fact that division is **not** boundless that forms the basis of confidence that the atoms are the transmission and regulation method by which the things that we see around us work in repeated patterns. Epicurus was reasoning that the minimum size of atoms is what makes it possible for the world to operate on a regular basis without divine supervision.

So in continuing to try to trace Epicurus' thinking, I think it's any obvious question to ask:

What did the Epicureans think to be the lower limit in size, and the upper limit in size, of an individual atom?

I think there are text references either in Herodotus or Lucretius or both about this which would be worthwhile to collect.

I seem to remember that the upper limit was considered to be either (1) large enough to be visible to us (none are), or (2) so large that a single atom would crowd out the rest of the universe. My memory is wrong there because that's a huge difference in size. I seem to remember (1) being said somewhere, but option (2) makes more logical sense. Maybe there's a way to relate both from different passages.

On the downside of size there is similar discussion. I seem to recall that it all comes back to the smallest size being deduced to be something like "large enough to perform its function of carrying on the eternal characteristics of size, shape, and weight."

Obviously here i am not looking for a discussion of modern scientific theory - that can be done somewhere else.

I am looking for what we can find out about this from the Epicurean texts, because pinning down how the Epicureans reasoned on this would likely give us some important insights into how Epicurus was thinking and developing his philosophy. I'd relate this right up there with "the nature of the gods" in importance, because it's the key to understanding how the universe operates *without* the direction of the gods.